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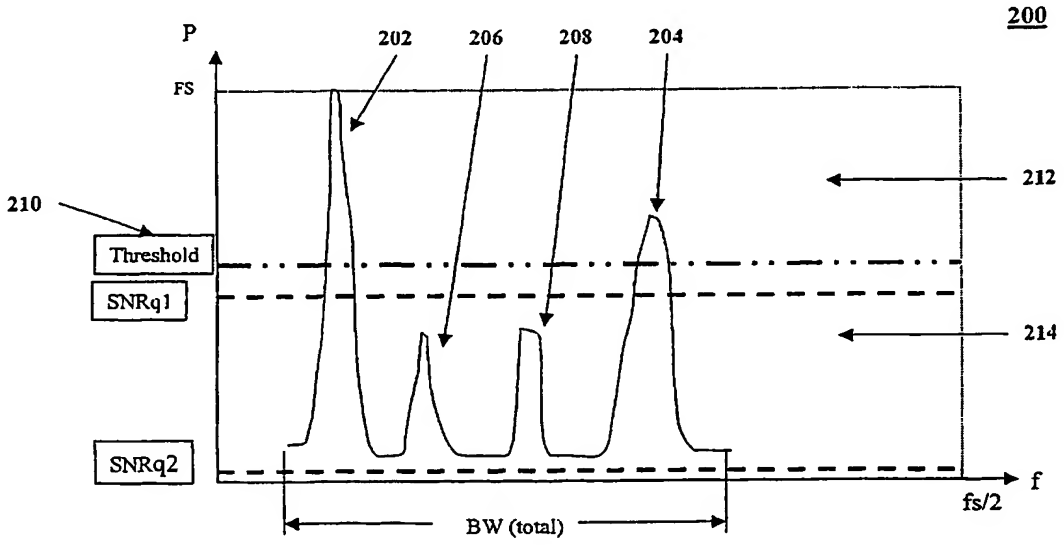
(54) Title: DATA CONVERSION METHODS AND SYSTEMS




(57) Abstract: Methods and systems for implementing high-performance data converters remove analog technology bottlenecks and provide higher converter resolution and higher speed. A preferred embodiment of the method comprises the steps of transforming a time domain input signal into a frequency domain signal in a digital form, processing the frequency domain signal and the input signal using at least two lower-performance data converters in order to obtain at least two processed signals, and recombining the at least two processed signals to obtain a final output signal from the high-performance converter. Inventively and advantageously, the processing includes dividing the frequency domain into at least two frequency domain parts, one related to a low-resolution signal to noise ratio (SNR) and the other elated to a high-resolution SNR, and using frequency information resulting from the division to obtain the at least two processed signals.

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